**Directions for the Mutations Worksheet**

Ms. Ottolini, PreAP Biology

1. First, determine the correct mRNA and amino acid sequence for the original DNA sequence. Draw a slash after each codon (sequence of three bases) on the mRNA. Use the codon chart in your notes to determine the amino acid that matches with each codon. Write the first three letters of each amino acid only.
2. If a mutated DNA sequence produces an early stop codon, do not continue writing the amino acids after the stop codon.
3. Below each mutated DNA sequence is the following question: “Will there likely be major effects?”

If the mutation causes no change in the amino acid sequence or only one change, write “No.”

If the mutation causes a change in several amino acids, write “Yes.”

1. Below each mutated DNA sequence is another question: “What kind of mutation is this?”

First, write either “Point Mutation” or “Frameshift Mutation.”

If you wrote “Point Mutation,” classify it as either “Silent,” “Missense,” or “Nonsense.”

If you wrote “Frameshift Mutation,” classify it as either “Insertion” or “Deletion.”

1. Make sure you also complete the back of the worksheet!